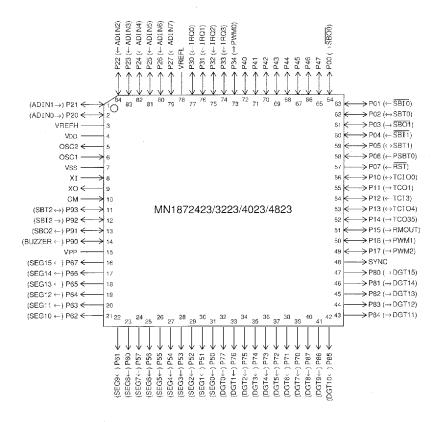
☐ MN1872423 / 3223 / 4023 / 4823

Туре	MN1872423 / 3223 / 4023 / 4823
ROM (x8-bit)	24K / 32K / 40K / 48k
RAM (x8-bit)	512 / 1024 / 1024 / 1024
Minimum Instruction Execution Time	With Main Clock operated 0.477µs (at 4.3 to 5.5V, 8.38MHz) With Sub-clock operated 122µs (at 2.2 to 5.5V, 32.768kHz)* * The lower limit for operation guarantee for EPROM built-in version is 2.7V.
Interrupts	• RESET • External 0 • External 1 • External 2 • External 3 • Timer 0 • Timer 1 • Timer 2 • Timer 3 • Timer 4 • Timer 5 • Serial 0 • Serial 1 • Serial 2 • Key Scan • Auto RAM Data Transmission • Reserve
Timer Counter	Timer Counter 0 : 8-bit x 1 (Timer Output, Event Count, Synchronous Serial Clock Generator, Pulse Width Measurement) Clock Source
	Timer Counter 1 : 8-bit x 1 (Timer Output) Clock Source
	Timer Counter 2: 8-bit x 1 (Clock function, Time Base) Clock Source
	Timer Counter 3: 8-bit x 1 (Timer Output, Event Count, PWM Output, Synchronous Output (1-bit x 1ch)) Clock Source
	Timer Counter 4: 8-bit x 1 (Timer Output, Event Count) Clock Source
	Timer Counter 5: 8-bit x 1 (Timer Output, Synchronous Output (1-bit x 1ch)) Clock Source
	Watchdog
	Connectable Timer Counter 0 + Timer Counter 2, Timer Counter 4 + Timer Counter 5
Serial Interface	Serial 0 : 8-bit x 1 (Synchronous Type) (Transmission/Reception of variable bit length, MSB/LSB selectable, Clock Polarity selectable, Start Condition function, DMA function) Clock Source1/1, 1/8, 1/16 of System Clock, Timer Output Clock, SBTO Pin Input, PSBTO Input
	Serial 1 : 8-bit x 1 (Synchronous Type) (Transmission/Reception of variable bit length, MSB/LSB selectable, Start Condition function, DMA function) Clock Source
	Serial 2:8-bit x 1 (Synchronous Type) (Transmission/Reception of variable bit length, MSB/LSB selectable, Clock Polarity selectable, Start Condition function, DMA function) Clock Source

I/O Pins	1/0	41	Common use: 33			
	High Voltage Output	32	Pch Open-drain (Breakdown Voltage -30V) : FL Driver : 32			
			Specified pull-down Resistor available : 16 (Mask Option)			
A/D Input	S		8-bit x 8ch (with S/H)			
FLP			16 Segments x 16 Columns			
PWM			14-bit x 1ch (Repetition Cycle 15.6ms, at 4.19MHz), 8-bit x 2ch (Repetition Cycle 244µs, at 4.19MHz)			
Special P	orts		Buzzer Output, 1 (Synchronous Output), Remote Control Transmission			
Notes			Carrier Generator Circuit for Remote Controller built-in			
Package			QFP084-P-1818			
Support T	ool					
In-Circuit Emulator			PX-ICE1870 / 80 + PX-PRB1876423			
Piggyback			Use EP1876423 as piggy in QFP084-P-1818 package.			
			EP1876423 is corresponded to MN1872423.			
EPROM built-in Type			Use MN18P76423 (under development) in QFP084-P-1818 package.			

Pin Assignment



Electrical Characteristics

Supply Current

		0	Limit			
Parameter	Symbol	Condition	min	typ	max	Unit
Operating Supply Current	IDD1	fosc=8.38MHz, VDD=5V			20	mA
	IDD2	fxi=32kHz, VDD=3V		50	100	μΑ
Supply Current at STOP	IDD3	fxi=32kHz, VDD=3V			10	μΑ

(Ta= -20 to +70°C, VSS=0V)

A/D Converter Characteristics

Parameter	Symbol	Condition	Limit			
			min	typ	max	Unit
A/D Conversion Absolute Error		Mustle TV Mustle OM			±3	LSB
A/D Conversion Relative Error	1	VrefH=5V, VrefL=0V			±3	LSB
A/D Conversion Time		fosc=4.19 / 8.38MHz			8.82	μs
Reference Input Voltage	VrefH		VrefL		VDD	V
	VrefL		VSS		VrefH	V
Analog Input Voltage	VADIN		VrefL		VrefH	V

(Ta= -20 to +70°C, VDD=5.0V, VSS=0V)